

## PNEUMATIC SURFACE EFFECT DAMPER

### ABSTRACT

5           A pneumatic endstop surface effect damper including an air piston housing  
with an air piston movable in an up stroke first direction and an opposite down stroke  
second direction inside the air piston housing and along the air piston inner housing  
wall with the air piston dividing the inner chamber into a first upper variable volume  
chamber and a second lower variable volume chamber. The air piston includes a  
10   lubricated viscous elastomer surface effect damper which engages the inner wall and  
provides a surface effect damping of the piston moving along the inner wall with the  
air piston including a movable valve system actuated by a change in the stroke  
direction of the air piston with the movable valve system releasing an air pressure  
from the upper variable volume chamber when the piston changes from the up stroke  
15   first direction to the opposite down stroke direction and releases an air pressure from  
the lower variable volume chamber when the piston changes from the down stroke  
direction to the up stroke direction, and provides velocity dependent forces.